Residential Workgroup
Meeting Minutes 12/13/10

Facilitator: Margaret Smigo
Recorders: David Bernard and Kelley West

In Attendance:
John Newton, Henrico DPW
Grace LeRose, Richmond DPU
Ed Cronin, Greeley and Hansen
Chuck Frederickson,James River Association
Kelley West, DEQ
Scott Burger, Sierra Club
Bill Shanabruch, Reedy Creek Coalition
Keith Burgess, Monacan SWCD
David Bernard, Sierra Club
Margaret Smigo, DEQ
Lorne Field, Chesterfield Env. Eng.
Scott Flannigan, Chesterfield Env. Eng.
Ram Gupta, DCR

Agenda:

1. Introductions and Sign-In
2. Steering Committee (select yes or no on sign-in-if you'd like to join).
3. Review of 11/16/10 Brainstorming Session – Questions
4. Goal of Meeting: Review BMP Data & Answer Group Questions
    a. Septic Repair/Replacement/Pump-outs
    b. Pet Education/Pet Composters
    c. Review of costs/unit
    d. Review of cost/unit by impaired watershed
5. Set next Residential WG meeting date/time with 2 back-up dates (must be an evening meeting)
6. *Open discussion (as time allows)*

- During the introduction, the sign-in sheet was circulated. Attendees were instructed to circle a yes or no for the column labeled "Would you like to join the Steering Committee?" Margaret explained that as a workgroup member your responsibility to the group is confined to review of the minutes and showing up for meetings. If you join the steering committee, you will be expected to not only review minutes and attend steering committee meetings (there will be at least 2), but also be required to review additional materials relevant to IP development and provide input on these materials. The 1st steering committee meeting will be scheduled for early January. Those who circled "yes" and are volunteering for the steering committee from the residential group are; Grace LeRose, Ed Cronin, Chuck Frederickson, David Bernard, Margaret Smigo, and Scott Flannigan. Also on the steering committee (as a member

of the residential workgroup) but not present is Chris French (Alliance for the Chesapeake Bay).

- Copies of the Brainstorming Session which took place on 11/16/10 at the first public Implementation Planning meeting were made available to those who needed a copy and there were no questions.

- Margaret explained the purpose of the 1st brainstorm meeting was to list all of the BMPs we'd like to see for residential areas. This included traditional BMPs (such as septic repair and pet waste education) but also included a lot of un-traditional, "out-of-the-box "BMP suggestions (such as initiation of building code changes in order for green infrastructure and LEED development projects to move forward). Margaret stated while a lot of the BMPs discussed in the 11/16/10 meeting focused on stormwater volume control, the focus of today's meeting would be the BMPs which remove the source of bacteria from the watershed in residential areas. Therefore, the information prepared for review by the group, is related to septic/sewer BMPs and pet-waste BMPs. Numbers of failing septic systems and straight-pipes and pet-populations were estimated in the TMDL and used to determine the amount of bacteria in the watershed as a result of those source types. While stormwater is a big issue and we plan on discussing those types of BMPs in the next workgroup meeting, the most effective way to reduce bacteria in the watershed is to take it out of the equation by addressing the source.

- Margaret explained Table 1 in the workgroup handout includes estimated numbers of failing septic systems and straight pipes from the TMDL. The TMDL estimates were used to develop the number of estimated septic system repairs, new septic systems, and alternative systems that must be implemented to meet water quality standards for each of the impaired waterbodies. The numbers in this table were also dependant on the final TMDL scenarios for each impaired waterbody in the report. The scenarios showed the estimated reduction of bacteria necessary for different land use types. For the residential workgroup, the land use types of "Human Direct" and "Human and Pet Land Based" are the factors which affect Tables 1 and 2 in the handout. It was explained that differences in land use affected the amounts of the "human and pet land based" reductions required. Because "human direct" sources of pollution are illegal, 100% of all septic failures and straight pipes must be corrected.

- Margaret said she took original MapTech numbers and altered them based on conversation w/ VDH in the government/urban workgroup on 12/9/10. She upped the estimated alternative septic system cost to $20,000, and since she recently had her septic system pumped, she knew the pump-out cost was closer to $450 (original was estimate was $220).

    - Group asked how where the estimates from TMDL came from, to which Margaret answered the 2000 Census. The questionnaires not only offered population information (which could be extrapolated to the watershed area) but also what type of sewage treatment did their house have (public sewer,

septic, other – and other was inferred to mean straight pipes). Also from 2000 Census, information on house age. TMDL estimated # of septic failures based on home ages. From set of age ranges can calculate an estimated number of failures using the expected % of failures for each age range (the older the house/system, the more likely it is to fail). Also, based on information DEQ received during public comment periods and throughout the TMDL development, these numbers would have been further adjusted. When no input is given, we must default to estimates that have been derived.

- Group doubted the estimates based on the Census. Margaret explained that during TMDL development, MapTech and DEQ used the best information available and asked for public input. Where no input was offered, numbers remained the same. It is acknowledged that there may be inaccuracies, which is inherent given the use of estimates. Margaret asked the group to not get stuck on the numbers in the TMDL. Adjustments can be made in the Implementation Plan, based on information from workgroup members.
- Margaret mentioned that VDH corrects septic failures and straight-pipes as they become aware of them. It is difficult to verify these numbers as a result, however, in speaking with Henrico Co., a straight-pipe was discovered and corrected in last 6 months.
- Keith asked where did the "Septic Pump-Outs" number come from to which Margaret answered it is half of all septic systems per impairment.

- The group was asked to answer 2 questions for Table 1:
  - Does the breakdown between septic repairs, new septic systems, and new alternative systems apply in these watersheds?
    - The group did not offer recommendations on these numbers however Ed Cronin suggested that for the "Septic Pump-Outs" column, a frequency should be associated.
  - Does sewer hook-up need to be added to the estimates? In which watershed would they be applicable? At what % of the total need (total failing/repairs/new)?
    - The group had a fair amount of discussion regarding this question. In order to determine feasibility for hooking-up homes to public sewer (who are currently on septic), we must know where the main pipes end and how much it will cost to hook up (based on distance from the main), and what is the need of surrounding homes. This could be determined by evaluating soil data, getting information from VDH on septic failures in the vicinity, and density of homes that would most benefit from public sewer connection.
    - Need information from localities in order to derive stage I and stage II plans for public sewer hook-up as a BMP in the IP plan.
    - Chesterfield Co. mentioned they have GIS layers which could help them determine which areas would be feasible for hook-up. Based on subdivision age, they can estimate the likelihood of septic failures. Scott said they could work with VDH to highlight failed septics which could indicate the possibility of other failures (given similarity of

soils) which may be ongoing nearby. Scott (Flannigan) wasn't sure of the public sewer hook-up requirements.

- The City of Richmond said their connection numbers do not seem to correspond to VDH's septic numbers. Grace and Ed said that density and soil maps should be consulted in order to determine where septic failures are most likely. Also age of house and proximity to nearby streams. Ed and Grace said they could do a hook-up estimate price per foot (or over 100'). The cost will depend on how far the house is from the main. Margaret suggested (overall in the IP) there could be a stage I effort where within a certain radius from the main(s) (in each impairment) sewer hook-up would be most cost-effective for as many homes possible. The stage II effort could include a distance with a wider radius which would be more expensive, but not cost prohibitive to hook-up as many homes as possible.
- Ed mentioned that based on VDH comments, the septic system replacement estimates (table 3) should be $8,000.
- Scott mentioned that in some underprivileged areas, there might be 13+ people living in a home with a septic system designed for a maximum of 4.
- Ed said that in the City, its best to look at who has water connection and not sewer. VDH says they only have ~140 some homes on septic but City reports some 1300 have water connection but no sewer connection. That's a huge amount of unaccounted waste – where is it going?
- Scott (Berger) mentioned it is possible that some folks are legally off public sewer through the use of composting toilets. Lorne mentioned that as far as the Census questionnaires, if they check "other", people might just not know what they have.

- In the interest of time, the group was asked to move on to Table 2. Margaret explained that in terms of bacteria source control, pet waste is a major contributing factor. There are a variety of ways to remove the waste as a source. The two main methods represented in the table are pet composters ("doggy-dooley" type systems which could be distributed to individual homeowners or groups who would use them collectively) and pet-waste education program systems. The table is somewhat ambiguous because pet-waste education program is not defined, so it should be interpreted as whatever the group deems necessary for the watershed. Margaret explained that some areas (like Reedy Creek) are high-density residential centered around common space (Reedy Creek Park and Forest Hill Park) so a more intensive program (with higher cost) might be necessary. On the other hand, Bernards Creek is much more rural though there might be a few subdivisions where we might be able to work with the homeowners' association to undertake something of a smaller scale pet-waste education program (lower cost). Pet-waste education program can include anything from just flyers to signs, pet-stations, etc. Pet composters were noted as only being beneficial in certain soils and climates.
  - Keith asked why some columns had a "0" for pet composters. Margaret explained that some impairments required less reduction in bacteria to meet

water quality standards. Having said that, Margaret reminded the group that additional scenarios would be run for the James riverine (lower, non-tidal segment) and Reedy Creek impairments. MapTech was working on that but didn't have them ready in time for the meeting. The group will review revised James riverine and Reedy Creek versions of estimated BMPs as soon as they are available. Because new Reedy Creek data (which was not included in TMDL) indicated a higher amount of bacteria than that demonstrated in the TMDL, it is realized that additional reductions will be necessary to meet water quality standards (and thus, likely more BMPs than these tables indicate). Margaret upped the Reedy Creek pet composter numbers to 500 (each stage) and 1 pet-waste education program in stage 1. The James riverine portion was delisted in 2008, and the City of Richmond requested that we include a scenario to reflect the delisting information, which may result in fewer reductions needed in that portion.

- The City requested MapTech outlined how they intended to run the new scenarios, so that the City might provide commentary prior to the final scenarios. Given the narrow time frame for this IP development and the need to keep on schedule, Margaret agreed this was a good idea, and would contact MapTech to ask them to provide a summary of how they would run the scenarios.
- Margaret asked the group to provide input on Table 2. Some members expressed that they were doubtful the pet composters would provide the intended benefit. Grace said that there is no metric to measure success (others suggested a survey could measure usage however). She said a successful pet-education campaign is based on repetition in order to have successful change in behavior. Keith said the pet-waste education programs would cost different for different areas. He suggested coming up with watershed totals and then divvying up the money by those watersheds which need pet-waste education the most. Margaret said that based on TMDL scenarios, the numbers needed are divvied up by watershed in order to meet water quality standards. We now need input on which watersheds need which BMPs the most, for example, which types will be most effective and where. All members thought the number of BMPs seemed low across the board. Scott said that often in high or medium density areas there are common spaces (like grass ditches along the roads) where folks walk pets. He said these spaces are often very close to streams or drainways. Ed said the pet-waste system and components should be defined so that members can see what is involved in the cost. Scott expected that depending on whether urban or rural, the costs would differ. Margaret said there are already pet stations and signage around the City and the localities. It would be best for the localities to let us know what they've paid for such BMPs (this was something the government/urban workgroups were asked to provide information on). In order to make effective recommendations in the plan, we need to know where these BMPs are already implemented anyways, cost information should also be available. DEQ would also like to know who is responsible for maintenance of these types of systems (county, city, homeowner associations?) and if agreements are in

place. Scott asked who would be responsible for maintenance and costs to implement these BMPS (parks, DPU, neighborhoods?). Grace mentioned that parks, neighborhoods, counties, DPU, all have separate programs usually, it's the communication between them that isn't always clear (don't always know who is doing what). Margaret said the IP process was meant to facilitate that communication.

- Finally, Margaret explained the estimates in Table 3 were for the BMPs in Tables 1 and 2. The remaining tables illustrate for each creek, based on the TMDL scenarios for meeting water quality standards, the number of BMPs needed and associated costs to implement them in each impaired watershed. It was again mentioned that the James riverine and Reedy Creek tables would likely change after the additional scenarios are completed. Margaret asked the group for input on the tables.
  - Keith mentioned that he would like to check to see how many houses are in Bernards Creek watershed and would also like to know from Chesterfield how many homes are connected to public sewer. Grace said that we would need to know what a pet-waste education entails and who would implement it. David suggested a pet-waste education plan that focuses on veterinary clinics. Someone would meet with the clinic and outline the problem of pet waste so they could educate their clients. Scott (Berger) said that most people don't think of it as a health issue, it's considered more of a common courtesy (aesthetics), in which case people are less inclined to pick-up after pets. If they were more aware of the human-health effect of pet waste on waterways they would see it in a way that might create a change their behavior. Grace said that whatever types of BMPs are put into place we must have a way to measure their successfulness. There should be measurable goals (not just fewer bacteria in samples taken). In other words, we should be able to say "yes, that worked" or "no, that didn't work". These could be number of bags used at a pet waste station, number of ads run to educate pet-owners about cleaning up after pets. She said is not feasible to measure goals from pet composter BMPs. Chuck said this is the same problem with E&S controls, once they are in there is no check and there is minimal follow-up. Bill suggested a survey a year or two after distribution of pet composters might offer some measure of success in regard to composters. Scott (Berger) said we need to look into what other states are doing. Scott (Flannigan) suggested looking into whether trash cans (bottomless) could be used in lieu of pet composters. Members were unsure if that would create issue with water table (pet composters only installed in short depths). If pet composters are used residents and localities should get credit somehow for using them.
- Margaret told the group that the next meeting would likely focus on stormwater type BMPs. If you have any information regarding efficiency information on stormwater BMPs please send it to her. Because stormwater BMP efficiencies are more typically given in terms of volume, we don't have a lot of information in regards to bacteria removal. We need this information to incorporate into the IP.
- The group discussed next meeting date and times. The 24th or 27th of January at 6pm were dates and time agreed (Margaret would secure location and announce to group).

The agriculture and residential workgroups would meet again on same date with back-to-back meetings (for those who would like to attend both).

FOLLOW UP:

- The agriculture workgroup meeting was scheduled for Monday January 24th, 2011 from 5:00 – 6:15pm.
- The residential workgroup meeting was scheduled for same date from 6:30-7:45pm.